Pace Analytical Services, LLC
315 Chestnut Street
Virginia, MN 55792
(218) 742-1042

May 17, 2017

Tom Moe
USS Corporation
P.O. Box 417
8771 Park Ridge Dr
Mountain Iron, MN 55768

RE: Project: USS MinnTac NPDES-TB Wk1
Pace Project No.: 1286780

Dear Tom Moe:
Enclosed are the analytical results for sample(s) received by the laboratory on May 03, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Melisa M Woods
melisa.woods@pacelabs.com
(218)742-1042
Project Manager

Enclosures

cc: Terri Sabetti, NTS

Pace Analytical Services, LLC
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CERTIFICATIONS

Project: USS MinnTac NPDES-TB Wk1
Pace Project No.: 1286780

Virginia Minnesota Certification ID's

315 Chestnut Street, Virginia, MN 55792
Montana Certificate #CERT0103
California Certification #2973
California Certification #2973
Alaska Certification UST-107
Alaska Certification UST-107
Alaska Certification #MN01084
Arizona Department of Health Certification #AZ0785
Minnesota Dept of Health Certification #: 027-137-445
North Dakota Certification: # R-203
Wisconsin DNR Certification # : 998027470
WA Department of Ecology Lab ID# C1007
Nevada DNR #MN010842015-1
Oklahoma Department of Environmental Quality
California Certification #2973

Duluth Minnesota Cerification ID's

4730 Oneota St., Duluth, MN 55807
Minnesota Dept of Health Certification #: 027-137-152
Wisconsin DNR Certification # : 999446800
North Dakota Certification #: R-105

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
315 Chestnut Street
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(218) 742-1042

SAMPLE SUMMARY

Project: USS MinnTac NPDES-TB Wk1
Pace Project No.: 1286780

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1286780001	**SD 001 (Seep 020)**	Water	05/03/17 11:20	05/03/17 13:00

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SAMPLE ANALYTE COUNT

Project: USS MinnTac NPDES-TB Wk1
Pace Project No.: 1286780

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
1286780001	**SD 001 (Seep 020)**	EPA 1664A TPH (1999)	DES	1	PASI-DUL
		USGS I-3765	BEM	1	PASI-V
		EPA 300.0	DMB	1	PASI-V

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: USS MinnTac NPDES-TB Wk1
Pace Project No.: 1286780

Sample: SD 001 (Seep 020) **Lab ID: 1286780001** Collected: 05/03/17 11:20 Received: 05/03/17 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A TPH (1999)								
Total Petroleum Hydrocarbons	ND	mg/L	3.1	1.0	1		05/09/17 13:51		
USGS I-3765 TSS	Analytical Method: USGS I-3765								
Total Suspended Solids	**1.2**	mg/L	1.0	1.0	1		05/08/17 14:19		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**1020**	mg/L	20.0	10.0	10		05/16/17 20:10	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: USS MinnTac NPDES-TB Wk1
Pace Project No.: 1286780

QC Batch: 113138 Analysis Method: EPA 1664A TPH (1999)
QC Batch Method: EPA 1664A TPH (1999) Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 1286780001

METHOD BLANK: 446616 Matrix: Water
Associated Lab Samples: 1286780001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	3.0	1.0	05/09/17 11:24	

LABORATORY CONTROL SAMPLE: 446617

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	15.1	76	64-132	

MATRIX SPIKE SAMPLE: 446618

Parameter	Units	1286659001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	<0.98	19.6	15.4	77	64-132	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: USS MinnTac NPDES-TB Wk1
Pace Project No.: 1286780

QC Batch: 113058
QC Batch Method: USGS I-3765
Analysis Method: USGS I-3765
Analysis Description: USGS I-3765 Total Suspended Solids
Associated Lab Samples: 1286780001

METHOD BLANK: 446388
Matrix: Water
Associated Lab Samples: 1286780001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	1.0	1.0	05/08/17 14:18	

LABORATORY CONTROL SAMPLE: 446389

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Suspended Solids	mg/L	239	244	102	80-120	

SAMPLE DUPLICATE: 446390

Parameter	Units	1286835001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	264	244	8	10	

SAMPLE DUPLICATE: 446391

Parameter	Units	1286778002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	100	104	4	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: USS MinnTac NPDES-TB Wk1
Pace Project No.: 1286780

QC Batch: 113881 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 1286780001

METHOD BLANK: 449208 Matrix: Water
Associated Lab Samples: 1286780001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfate	mg/L	ND	2.0	1.0	05/16/17 15:12	

LABORATORY CONTROL SAMPLE: 449209

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	50	50.3	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 449210 449211

Parameter	Units	1286916002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	56.6	50	50	109	109	104	105	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 449212 449213

Parameter	Units	1286990001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	191	50	50	241	244	99	106	90-110	1	20	E

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALIFIERS

Project: USS MinnTac NPDES-TB Wk1
Pace Project No.: 1286780

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-DUL	Pace Analytical Services - Duluth
PASI-V	Pace Analytical Services - Virginia

BATCH QUALIFIERS

Batch: 113138

[BE]	Batch extracted by solid phase extraction (SPE).

ANALYTE QUALIFIERS

E	Analyte concentration exceeded the calibration range. The reported result is estimated.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: USS MinnTac NPDES-TB Wk1
Pace Project No.: 1286780

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1286780001	**SD 001 (Seep 020)**	EPA 1664A TPH (1999)	113138		
1286780001	**SD 001 (Seep 020)**	USGS I-3765	113058		
1286780001	**SD 001 (Seep 020)**	EPA 300.0	113881		

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Re

The Chain-of-Custody is a LEGAL DOCUMENT. All relev

WO# : 1286780

PM: MMW Due Date: 05/17/17

CLIENT: USS CORP

1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	USS Corporation	Report To:	Tom Moe	Attention:	
Address:	P.O. Box 417	Copy To:		Company Name:	
Mt. Iron, MN 55768				Address:	
Email:		Purchase Order #:		Pace Quote:	
Phone:	Fax:	Project Name:	NPDES-TB Wk1	Pace Project Manager:	heather.zika@pacelabs.com,
Requested Due Date:		Project #:		Pace Profile #:	

Regulatory Agency

State / Location

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analysis Filtered (Y/N) Y/N	Analyses Test: TSS,SO4	TRPH 1664	Residual Chlorine (Y/N)	
1	SD 001 (Seep 020)	WT		5-3-17	11:20	5-3-17	11:20												X	X		001
2																						
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						

MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Paul Mattila	5-3-17	13:00		5/3/17	1300	1.5	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Paul Mattila

SIGNATURE of SAMPLER: Paul Mattila DATE Signed: 5-3-17

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

Pace Analytical®	Document Name: Sample Condition Upon Receipt Form	Document Revised: 15Mar2016 Page 1 of 1
	Document No.: F-VM-C-001-Rev.10	Issuing Authority: Pace Virginia, Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: USS

Project # WO#: 1286780

PM: MMW Due Date: 05/17/17

CLIENT: USS CORP

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☑ Client ☐ Commercial ☐ Pace ☐ Other:

Tracking Number:

Custody Seal on Cooler/Box Present? ☐ Yes ☑ No Seals Intact? ☐ Yes ☑ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☑ Other: ICE Temp Blank? ☑ Yes ☐ No

Thermometer Used: ☑ 140792808 Type of Ice: ☑ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read °C: 1.2 Cooler Temp Corrected °C: 1.5 Biological Tissue Frozen? ☐ Yes ☐ No ☑ NA

Temp should be above freezing to 6°C Correction Factor: +0.3 Date and Initials of Person Examining Contents: D 5/3/17

				Comments:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☑ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☑ Yes	☐ No	☐ N/A	3.
Sampler Name and Signature on COC?	☑ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	5. If Fecal: ☐ <8 hours ☐ >8, <24 hours ☐ >24 hours
Short Hold Time Analysis (<72 hr)?	☐ Yes	☑ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	7.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	10.
Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☑ N/A	11. Note if sediment is visible in the dissolved containers.
Sample Labels Match COC?	☑ Yes	☐ No	☐ N/A	12.
-Includes Date/Time/ID/Analysis Matrix: WT				
All containers needing acid/base preservation will be checked and documented in the pH logbook.	☑ Yes	☐ No	5/3/17 ☐ N/A	See pH log for results and additional preservation documentation
Headspace in Methyl Mercury Container	☐ Yes	☐ No	☒ N/A	13.
Headspace in VOA Vials (>6mm)?	☐ Yes	☐ No	☐ N/A	14.
Trip Blank Present?	☐ Yes	☐ No	☐ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☒ N/A	
Pace Trip Blank Lot # (if purchased):				

CLIENT NOTIFICATION/RESOLUTION Field Data Required? ☐ Yes ☐ No

Person Contacted: Date/Time:

Comments/Resolution:

FECAL WAIVER ON FILE Y N TEMPERATURE WAIVER ON FILE Y N

Project Manager Review: Date: 5/3/17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Intra-Regional Chain of Custody

Pace Analytical®
www.pacelabs.com

Workorder: 1286780 **Workorder Name:** USS MinnTac NPDES-TB Wk1 **Owner Received Date:** 5/3/2017 **Due Date:** 5/17/2017

Received at:	Send To Lab:
Pace Analytical Virginia 315 Chestnut Street Virginia, MN 55792 Phone (218)742-1042	Pace Analytical Duluth 4730 Oneota Street Duluth, MN 55807 Phone (218) 727-6380

Report To:
Melisa M Woods

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: HCL						Requested Analysis: EPA 1664A TPH (1999)												LAB USE ONLY
1	SD 001 (Seep 020)	PS	5/3/2017 11:20	1286780001	Water							X												
2																								
3																								
4																								
5																								

Transfers	Released By	Date/Time	Received By	Date/Time
1	Locic UP	5/4/17 1400		5/4/17 1400
2		5/4/17 1640	Kim Hogy	5/4/17 1640
3				
4				

Comments

Cooler Temperature on Receipt 1.0 °C | **Custody Seal** (Y) or N | **Received on Ice** (Y) or N | **Samples Intact** (Y) or N

****In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document. This chain of custody is considered complete as is since this information is available in the owner laboratory.*

Pace Analytical	Document Name: Sample Condition Upon Receipt Form	Document Revised: 17Apr2017 Page 1 of 1
	Document No.: F-DUL-C-001-rev.04	Issuing Authority: Pace Duluth Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: Pace VM

Project #:

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace ☐ Other:

Tracking Number:

Custody Seal on Cooler/Box Present? ☒ Yes ☐ No Seals Intact? ☒ Yes ☐ No Optional: Proj. Due Date: Proj. Name:

Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other: Temp Blank? ☒ Yes ☐ No

Thermometer Used: ☒ IR-1 ☐ 161014660 Type of Ice: ☒ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read °C: 1.0 Cooler Temp Corrected °C: 1.0 Biological Tissue Frozen? ☐ Yes ☐ No ☒ NA

Temp should be above freezing to 6°C Correction Factor: TRUE Date and Initials of Person Examining Contents: VH 5/4/17

If temperature is ≤0°C, is there evidence of ice formation? ☐ Yes ☐ No ☒ NA

				Comments:
Chain of Custody Present?	☒ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes	☐ No	☐ N/A	3.
Sampler Name and Signature on COC?	☐ Yes	☐ No	☒ N/A	4.
Samples Arrived within Hold Time?	☒ Yes	☐ No	☐ N/A	5. If Fecal: ☐ <8 hours ☐ >8, <24 hours ☐ >24 hours
Short Hold Time Analysis (<72 hr)?	☐ Yes	☒ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☒ No	☐ N/A	7.
Sufficient Volume?	☒ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☒ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☒ Yes	☐ No	☐ N/A	
Containers Intact?	☒ Yes	☐ No	☐ N/A	10.
Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☒ N/A	11. Note if sediment is visible in the dissolved containers.
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix: wt	☒ Yes	☐ No	☐ N/A	12.
All containers needing acid/base preservation will be checked and documented in the pH logbook.	☐ Yes	☐ No	☒ N/A	See pH log for results and additional preservation documentation
Headspace in Methyl Mercury Container	☐ Yes	☐ No	☐ N/A	13.
Headspace in VOA Vials (>6mm)?	☐ Yes	☐ No	☐ N/A	14.
Trip Blank Present?	☐ Yes	☐ No	☐ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☐ N/A	
Pace Trip Blank Lot # (if purchased):				

CLIENT NOTIFICATION/RESOLUTION Field Data Required? ☐ Yes ☐ No

Person Contacted: Date/Time:

Comments/Resolution:

FECAL WAIVER ON FILE Y N TEMPERATURE WAIVER ON FILE Y N

Project Manager Review: jed Date: 5/5/17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)